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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,711	02/19/2004	Yi-An Sha	0941-0919P	3187
2292 7590 04/02/2009 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER				
JONES, JAMES				
ART UNIT		PAPER NUMBER		
2873				
NOTIFICATION DATE		DELIVERY MODE		
04/02/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/780,711

Applicant(s)

SHA ET AL.

Examiner

JAMES C. JONES

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 43-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 43-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 43-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwanga et al. (5739946) hereafter Iwanga in view of Kaneko (20030053227) hereafter Kaneko and further in view of Mochizuki (6930816) hereafter Mochizuki.

Regarding claim 43 Iwanga discloses an operating structure of a polymer-gel display, utilizing the flexing of a polymer-gel sheet to enable the display (fig. 2 and 3) , comprising: a pair of substrates with a preset gap therebetween (fig. 2 and 3, "1" and "4" as the "pair of substrates"); a polymer-gel sheet of a first color disposed between the substrates, contacting no more than one of the substrates, having two fixed ends and a flexible center area (fig. 2 and 3, col. 8, line 2, col. 9, lines 1-60, "3" as the "polymer-gel sheet"); and a fluid layer of a second color between the substrates, displaying the second color via the substrate not contacting the polymer-gel sheet (fig. 2 and 3, col. 8 lines 54-67, col. 9 lines 1-60), wherein the center area of the polymer-gel sheet flexes toward the substrate originally not contacted thereby when an external electric field is applied, such that the first color of the polymer-gel sheet is displayed via the substrate after the polymer-gel sheet and the substrate make contact (fig. 2 and 3, col. 8 lines 54-

67, col. 9 lines 1-60) but does not specifically disclose a pair of conducting layers disposed on opposing surfaces of the substrates. Kaneko teaches that in optical system having substrates and a flexible layer that it is desirable to have a pair of conducting layers disposed on opposing surfaces of the substrates (fig. 6 "117" and "109" as the "pair of conducting layers") for the purpose of effectively controlling the flexible layer with greater precision. Therefore, it would have been obvious to person having ordinary skill in the art at the time the invention was made to have included a pair of conducting layers disposed on opposing surfaces of the substrates in the optical system of Iwanaga as modified by Kaneko since Kaneko teaches that in optical system having substrates and a flexible layer that it is desirable to have a pair of conducting layers disposed on opposing surfaces of the substrates (fig. 6 "117" and "109" as the "pair of conducting layers") for the purpose of effectively controlling the flexible layer with greater precision but Iwanaga and Kaneko do not disclose or teach a pair of conducting spacers disposed between at least one of conducting layers and the polymer-gel sheet. Mochizuki teaches that in an optical system having electrodes and a flexible membrane (fig. 2) that it would be desirable to include a pair of conducting spacers ("14" or "25" as the "pair of conducting spacers") disposed between at least one of conducting layers and the polymer-gel sheet (fig. 2 and 3) for the purpose of improving the quality of the display and making it more cost efficient. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have included a pair of conducting spacers disposed between at least one of conducting layers and the polymer-gel sheet in the optical system of Iwanga modified by Kaneko and further

modified by Mochizuki since Mochizuki teaches that in an optical system having electrodes and a flexible membrane that it would be desirable to include a pair of conducting spacers disposed between at least one of conducting layers and the polymer-gel sheet for the purpose of improving the quality of the display and making it more cost efficient.

Regarding claim 44 Iwanga, Kaneko and Mochizuki disclose and teach as set forth above and Iwanga further discloses, wherein the substrate originally not contacting the polymer-gel sheet is a transparent glass substrate (fig. 2 and 3, col. 9, line 36).

Regarding claim 45 Iwanga, Kaneko and Mochizuki disclose and teach as set forth above and Iwanga further discloses, wherein the polymer-gel sheet is a PMMA (polymethyl methacrylate)-gel, polyamide-gel, or polyvinyl fluoride-gel sheet (col. 16, lines 54-55, col. 19, lines 50-61).

Regarding claim 46 Iwanga, Kaneko and Mochizuki disclose and teach as set forth above and Iwanga further discloses, wherein the polymer-gel sheet further comprises an ion-exchange film formed thereon (fig. 2 and 3, col. 9, lines 1-67, col. 10, lines 1-10).

Regarding claim 47 Iwanga, Kaneko and Mochizuki disclose and teach as set forth above and Iwanga further discloses, wherein the fluid layer further comprises an electrolyte (col. 4, lines 62-63).

Regarding claim 48 Iwanga, Kaneko, and Mochizuki disclose and teach as set forth above and Kaneko further teaches that in an optical system having substrates and a flexible layer that it is further desirable to also have one of the pair of conducting

layers in contact with one of the pair of substrates, and the other one of the pair of conducting layers is in contact with the other one of the pair of substrates (fig. 6 "117" and "109" as the "pair of conducting layers") for the purpose of effectively controlling the flexible layer with greater precision. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have included one of the pair of conducting layers in contact with one of the pair of substrates, and the other one of the pair of conducting layers is in contact with the other one of the pair of substrates in the optical device of Iwanaga as modified by Kaneko since Kaneko further teaches that in an optical system having substrates and a flexible layer that it is further desirable to also have one of the pair of conducting layers in contact with one of the pair of substrates, and the other one of the pair of conducting layers is in contact with the other one of the pair of substrates for the purpose of effectively controlling the flexible layer with greater precision.

Response to Arguments

Applicant's arguments with respect to claims 43-48 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES C. JONES whose telephone number is (571)270-1278. The examiner can normally be reached on Monday thru Friday, 8 a.m. to 5 p.m. est. time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on (571) 272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James C. Jones/
Examiner, Art Unit 2873
3/26/2009

/Jordan M. Schwartz/
Primary Examiner, Art Unit 2873